

DOCUMENT RESUME

ED 292 707

SO 018 662

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TITLE Can Informal Logic Courses Teach Critical Thinking: Reflections on McPeck and Paul.
PUB DATE 12 Apr 87
NOTE 16p.; Paper presented at the Conference on Critical Thinking (Newport News, VA, April 9-12, 1987).
PUB TYPE Speeches/Conference Papers (150) -- Viewpoints (120)
EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Cognitive Development; Cognitive Processes; *Critical Thinking; Educational Philosophy; Higher Education; Logic; *Logical Thinking; *Problem Solving
IDENTIFIERS *McPeck (John); *Paul (Richard)

ABSTRACT

The teaching of critical thinking requires an understanding of the term, defined in this document as the processes of judgement or evaluation. Informal logic teaches students to understand and analyze arguments which are fallacious, to determine what is valid and invalid, and to evaluate non-deductive arguments. John McPeck and Richard Paul questioned whether informal logic can teach critical thinking, since it varies from discipline to discipline. They believed that a background knowledge of relevant subject matter was vital for an assessment of truth or falsity of arguments and that there were methodological differences among disciplines. Paul challenged the assumption that critical thinking could be taught as a battery of technical skills as though each argument were an individual unit outside its overall context. This approach he labeled "atomistic," arguing that instead, critical thinking must focus on world, not segmental views. (NL)

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TEACH CRITICAL THINKING:
REFLECTIONS ON MCPECK AND PAUL

by

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CAN INFORMAL LOGIC COURSES TEACH CRITICAL THINKING:

Reflections on McPeck and Paul

The last decade has seen the rise of two related movements. In philosophy, specifically in logic, the "informal logic movement" appears to have captured the field, at least in terms of course offerings and text publications.¹ In education generally there has been a booming "critical thinking movement." The latter movement grew out of a sudden realization of educators at all levels and in all disciplines that a large number of students suffer from thinking deficiencies, and that steps need to be taken to remedy such deficiencies. How are these movements related? Many informal logicians apparently hold that they are basically identical, both movements being about the same thing, since informal logic really is critical thinking; or, at the very least, what informal logic courses teach is critical thinking. There can be no doubt that the IL movement has been as successful as it has because of the rise of the CT movement. When demands arose (especially in California) for the teaching of CT, informal logicians were quick to step in to meet them, on the grounds that logicians have been teaching critical thinking for years, and that we now know that informal logicians can do it better than formal ones. Perusal of recent writings about CT by philosophers and logicians quickly confirms that there is a strong tendency to assume a very close relationship between IL and CT.²

There have, however, been a few in the IL and CT movements who have rejected the identification of informal logic and critical thinking, and who have challenged the notion that courses in informal logic can teach critical thinking. Most notorious of these challengers have been John McPeck and Richard Paul. McPeck argues

that since there is no such thing as critical thinking (in general) no course of any kind could possibly teach it. Paul allows that IL courses do teach critical thinking in what he calls the "weak sense." But he also argues that there is a "strong sense" of CT that is much more important and more valuable, and the typical IL course not only fails to teach this strong sense CT, but may actually impede its development. This paper will examine the arguments of McPeck and Paul as a basis for determining what IL courses can and cannot do in relation to CT and what those of us who teach such courses should be trying to do. Before looking at the arguments of McPeck and Paul, I will begin with some observations about what "critical thinking" is and what informal logic courses do.

One might well suspect that much of the controversy hinges on the definition of "critical thinking." Such suspicion is justified. It is clear that if one were to define "critical thinking" as the sort of thing that is taught in informal logic courses, then there would be little doubt that IL courses do teach CT. However, if one did define it that way, one would still have to contend with those who define it differently, either by showing that their definition is inadequate, or that IL can teach CT in their sense also, or that CT in their sense isn't worth bothering about (or all three).

It is reasonably clear that any definition of "critical thinking" will be stipulative in nature. I will assume that there is no real essence of critical thinking lurking out there, waiting to be captured by an appropriate definition. Thus the question "but is that really critical thinking?" has no possible answer except "that's what I choose to call critical thinking." Still, some stipulative definitions are better than others, especially when the term being defined is a compound of two terms that already have standard meanings. The word "thinking"

apparently denotes a process. Thinking is an activity that one can engage in. The qualifier "critical" suggests that the thinking in question should be related to processes of judgment or evaluation. One would think that not all thinking is critical. At any rate, any reasonable stipulation as to the meaning of "critical thinking" ought to hew fairly closely to these standard meanings, making critical thinking a kind of judgemental thought activity.

What happens in informal logic courses? Typically, students are taught to do such things as: recognize arguments; analyze (and portray) argument structures, separating premises from conclusions; recognize various types of fallacious arguments; learn how to tell valid from invalid arguments, and how to evaluate non-deductive arguments; recognize good definitions; paraphrase and clarify sentences; etc. Such activities undoubtedly do require thinking; and many of them are obviously evaluative and judgemental in character, hence critical. How could such not be critical thinking?

Let us look at John McPeck. In Critical Thinking and Education³ and in numerous articles McPeck has defended the thesis that

Purporting to teach critical thinking in the abstract, in isolation from specific fields or problem areas, is muddled nonsense; thinking of any kind is always 'thinking about X'. Critical thinking cannot be a distinct subject.

McPeck's basic argument, that since thinking must be about something, and one cannot think in general, there can be no such thing as critical thinking in general and thus can be nothing for courses that purport to teach critical thinking to teach, is fallacious, as has been pointed out.⁵ The fallacy is best shown by the analogy with writing. Writing must be about something; it does not follow that there cannot be effective courses that teach writing (in general). It is conceivable that there

are certain features of critical thinking about any X that can be learned in courses that are not devoted to any specific X. Fortunately (for McPeck) he does not rest his whole case on the fallacious argument. He also tries to show that there are no significant principles common to critical thinking about various X's.

Although McPeck rejects the idea that there is a general ability called "critical thinking," he does not totally reject the concept:

The term 'critical thinking' has an identifiable meaning, but the criteria for its correct application vary from field to field. The phrase 'reflective scepticism' captures the essence of the concept, but a more complete description would be something like 'the disposition and skill to do X in such a way that E (the available evidence from a field) is suspended (or temporarily rejected) as sufficient to establish the truth or viability of P (some proposition or action within X)'.

Critical thinking, then, is reflective scepticism. Reflective scepticism involves the application of certain skills, and the relevant skills (says McPeck) vary from discipline to discipline. "Critical thinking about an historical question requires, first and foremost, the skills of an historian; similarly, critical thinking about a scientific question requires the knowledge and skills of a scientist."⁷ Discussing the example of Einstein, who "could communicate remarkably in physics" but "was rather inept at poetry," McPeck claims "this is because the knowledge and skills required for the one activity are quite different from the knowledge and skills required for the other. And while it is possible that one person can be quite accomplished at many different activities, common sense suggests such a person possesses several different kinds of knowledge and understanding: it is not one skill, generically referred to as "reasoning" which one then uniformly applies to all these tasks. It is possible that there may be some common elements in the various tasks requiring reasoning, but a little reflection suggests that the differences among the kinds of reasoning are far greater, and more obvious, than whatever they may have in common."⁸ This is McPeck's main theme: each discipline

is unique, and whatever it takes to be a critical thinker or effective reasoner or reflective sceptic in a particular discipline can only be learned by learning the discipline.

One must, I believe, grant several of McPeck's points. One cannot take an IL or CT course and come out at the end of the term an all-purpose critical thinker able to think critically about monetary theory, quantum theory, and the causes of the Peloponnesian War; certainly one will not emerge from such a course as a critically thinking poet. There are two reasons IL courses don't produce all-purpose thinkers. First, background knowledge is vital. One lesson that should be learned in an IL course is that the process of argument evaluation demands assessment of the truth or falsity of premises. The ability to make such assessments can't be taught in logic courses, formal or informal. It requires knowledge of the relevant subject matter.

The second reason is that there may well be methodological differences among disciplines. Whether such differences are as great as McPeck believes will require more than a "little reflection" to determine. Still, even if disciplines vary substantially in terms of methodology, there still are certain common elements. One does find arguments in many fields, and arguments of various levels of complexity. The simple ability to sort out premises from conclusions, and analyze argument structures could have application in several disciplines. Considerations about how to interpret statistical correlations, about the nature of causal reasoning, etc. do apply in various fields. Although I will admit the notion of appeals to force or pity cropping up in mathematical reasoning is somewhat ludicrous, I have little difficulty imagining arguments from ignorance, question begging arguments, or slippery slopes showing up in just about any discipline. There are at least some principles of good and bad (especially bad) reasoning that do apply across

disciplines. It is at least possible that students who learn those principles in an IL course can recognize and apply them in their disciplines. To say that is not to say that taking an IL course will turn a student into a reflective, critical, thoughtful, etc. historian or biologist. Those who aspire to be good thinkers in history should take a lot of history courses, and learn thereby to think like historians. But has anyone ever suggested that one informal logic course will work miracles?

We might grant McPeck the idea of critical thinking as "reflective scepticism." At least, we can allow that thinking critically will involve the questioning attitude implied by "scepticism," and it probably should be reflective. Being sceptical, however, is in great part an attitude. It is a habit of asking questions, of not accepting everything at face value. (It probably goes beyond McPeck's restriction of it to questioning the adequacy of evidence for certain propositions.) McPeck is probably right in suggesting that being reflectively sceptical in any particular discipline does require acquaintance with the knowledge, skills, and methods of that discipline. (Although the more interesting, provocative, and fruitful sceptical questions in any discipline might well come from the outsider or the beginner who is not entrenched in the methods of the discipline.) However, I have a suspicion that thorough training in a discipline is no more likely to engender a sceptical attitude in regard to that discipline than an informal logic course is to engender a general sceptical attitude. IL courses might have an advantage, in that they can be designed to at least teach the kinds of questions that a general reflective sceptic might ask.

A fairly standard criticism of McPeck relates to his apparent assumption that thinking must be disciplinary.⁹ Most of our thinking is everyday thinking, about

our personal situations, about the affairs of the world, about music and movies and sports and various mundane matters. Most people, including most who take logic courses, are not scholars and have no intention of becoming critical thinkers in some academic discipline. IL courses are much more likely to promise to improve the everyday, garden variety reasoning skills of ordinary people than they are to promise to produce scholars. Logic texts (ad nauseum) claim that they will improve students' abilities to read and competently assess newspaper editorials. The reason that editorials are constantly mentioned is, I assume, that the editorial is one place where one can reliably expect to be confronted by an argument (or at least something resembling an argument), and what IL tries to teach is, above all, the ability to competently evaluate arguments. If it is the case that the kind of thinking ability IL courses are trying to engender is the ability to analyze and evaluate everyday reasoning, reasoning that is not within the province of any particular academic discipline, then McPeck's arguments seem beside the point.

McPeck has two lines of response to this criticism. First, he believes that attempts to teach this kind of general argument analysis are bound to fail, since informal logicians operate under the mistaken assumption that "regardless of subject matter, context, or specific purpose, all good arguments should conform to some finite set of teachable rules or principles." This remark is made in criticism of Michael Scriven, who is seen as trying to force all arguments into one basic structure for argument analysis. Scriven and others are said to fail because "the diversity of arguments and their purposes shows this idea to be untenable."¹⁰ McPeck seems to be making a point about everyday argumentation similar to his main point about argument in general: there is too much variety for there to be any common principles. I think informal logicians might grant him this point also. There probably are no principles that all good arguments conform to, and perhaps no uniform

criteria for evaluating all arguments. But that does not mean that there are no principles and no criteria, or that one can not learn to recognize varieties of argument, and to recognize that there will always be some arguments that slip through all our nets. The assumption McPeck charges informal logicians with making need not be made.

McPeck's second line of reply relates to the fact that informal logic involves the analysis of arguments that are already completed and written out. Critical thinking, he says,

does not merely refer to the assessment of statements but includes the thought processes involved in problem solving and active engagement in certain activities.

That is, critical thinking, for McPeck, includes much more than argument assessment. It must involve more active thought processes. Now arguments presumably are the final results of certain kinds of thought processes. But thinking may, of course, lead to other kinds of results than the construction of arguments. Whether or not the kinds of things one learns to do when one learns to analyze arguments improve one's abilities to engage in problem solving and other activities is certainly an open question. I know of no reason to suppose that they do, so will grant this point to McPeck also. I would only add that "problem solving and active engagement in certain activities" are not the same thing as reflective scepticism (as defined by McPeck), so McPeck is apparently willing to allow more than one legitimate sense of "critical thinking."

If critical thinking is defined as reflective scepticism within a particular academic discipline, or as thought processes involved in problem solving and active engagement in certain activities, then McPeck is probably right: IL and CT courses do not teach critical thinking. However, McPeck has not clearly shown that IL courses

cannot teach principles, methods, and criteria for interpreting and evaluating arguments. In so far as doing so involves thinking, and such thinking clearly involves being critical of arguments, it can as legitimately be called "critical thinking" as the things McPeck attaches that label to. Of course, all that a course can provide is principles, concepts, methods, etc. It cannot guarantee that the student will ever use them once the course is over, and in that sense cannot guarantee that students successfully completing the course will be critical thinkers in any sense. This brings us to Richard Paul's concerns.

Richard Paul frequently distinguishes between a "weak sense" and a "strong sense" of "critical thinking." I have been unable to locate any very precise definition of either sense, but it is clear that the kinds of things I have been saying IL courses concern themselves with constitute what Paul considers weak sense CT. The weak sense involves certain "standard modes" of teaching, and involves a critical and erroneous assumption.

The most fundamental and questionable assumption of these approaches (whether formal or informal) is that critical thinking can successfully be taught as a battery of technical skills which can be mastered more or less one-by-one without any significant attention being given to the problems of self-deception, background logic, and multi-categorical ethical issues.¹²

The problem with this as an approach to critical thinking is apparently its "atomistic" character. Paul regularly labels the weak sense "atomistic," presumably because it treats each argument as an individual unit, outside its overall context, and applies particular techniques and critiques one by one, hoping to discover errors. The errors, once discovered, are corrected and people believe they have successfully engaged in critical thinking. That this atomistic approach does not successfully teach critical thinking Paul concludes from experience. He finds that courses taught that way simply don't produce the results that teachers of them want.

I take it to be self-evident that virtually all teachers of critical thinking want their teaching to have a global "Socratic" effect, making some significant inroads into the everyday reasoning of the student, enhancing to some degree that healthy, practical, and skilled skepticism one naturally and rightly associates with the rational person. This necessarily encompasses, it seems to me, some experience in seriously questioning previously held beliefs and assumptions and in identifying contradictions and inconsistencies in personal and social life. Most of us, I imagine, when we think along these lines and get glimpses into the everyday life and habits¹³ of our students experience at times moments of frustration and cynicism.

Paul is concerned not only that students in IL courses do not learn to question their own beliefs and assumptions, but fears that such courses serve to more deeply entrench those basic assumptions by providing students with "a variety of critical 'moves' of which they can make use in defense of their a priori egocentric belief system."¹⁴

The "strong" sense of CT, as one might expect, does what the weak sense does not do.

In place of "atomic arguments" one focuses on argument networks (world views); in place of conceiving of arguments as susceptible of atomic evaluation one takes a more dialectical/dialogical approach (arguments need to be appraised in relation to counter-arguments, wherein one can make moves that are very difficult to defend or ones that strengthen one's position). One is led to see that atomic arguments (traditional conception) are in fact a limited set of moves within a more complex set of actual or possible moves reflecting a variety of logically significant engagements in the world.¹⁵

Presumably students taught to recognize the manner in which arguments are nested in world-views, and to evaluate those arguments in their total context, also learn to question their own "egocentric and sociocentric" beliefs and assumptions, and learn to recognize the difference between the beliefs they really hold and those they have learned to profess.

I have no objection whatever with CT in the strong sense. One can hardly deny that it is a worthy and desirable goal. But I am not able to share Paul's concerns

about the so-called "weak sense" of CT, which I take to be identical with informal logic. Disregarding the belittling label he attaches to it, I am not convinced that IL is as "atomistic" as Paul suggests. At least, it need not be. Evaluation of arguments, if properly done, will often involve considerably more than testing for formal validity or attaching a fallacy label. It can (and should) include worrying about whether or not the premises are true, and it can (and must) include interpretation and paraphrase, processes that might well involve consideration of context. It is probably rare in IL courses to try to determine how particular arguments relate to world-views. But even within a world-view, there is reasoning going on. There are arguments; some good, some bad. If students can be helped at all in learning how to tell good from bad, that will be a legitimate function, even if it doesn't lead to discovery of egocentric assumptions.

When reading Paul's description of his frustration when students don't seem to have become more rational, it struck me that the experience he describes is one I often have with Introduction to Philosophy courses. Indeed, I often get the sense in reading Paul that what he calls CT in the strong sense is very close to the ultimate objective that introductory philosophy courses ought to have. I think Paul's concerns are curricularly misplaced. Why not let logic courses (both formal and informal) do what they do, and let all philosophy courses aim, each in its own way, at producing critical thinkers in the strong sense.

It is not clear to me, however, that some of the so-called atomistic techniques of IL can't be useful in the process of becoming aware of one's world-view and its presuppositions (and the world-views of others). One of the more difficult and important "techniques" sometimes included in IL is that of discovering the assumptions that lie behind arguments. Usually this does not go beyond missing

premises in enthymemes, but it can. If one is concerned that students at least ask about the truth or falsity of premises, one can also ask them to try to figure out how the premises of an argument might be supported. If students are asked to construct arguments of their own, they can be asked to argue for their premises, and for those premises, etc. Basic assumptions can be made to appear, and sometimes appear rather quickly.

It is, of course, distressing to find that students resist asking critical questions about their own beliefs. They do, and they will. They are human, after all. One can meet the problem head on by trying to force students to become self-critical (say, by making them construct and critically evaluate their own arguments). In some cases, it may work. (Students will resist being self-critical no matter what the assignment.) I think it can be done within the framework of a traditional IL course.

Overall, my reaction to Paul is that IL courses don't have to be as valueless as he thinks, and that his strong sense CT is probably best left as a goal for philosophy courses in general, not for logic courses in particular. I suspect nothing is gained by use of the terms "weak sense" and "strong sense."

Do or can IL courses teach critical thinking? To return to the beginning, it does look like a matter of definition. Such courses don't teach CT as McPeck defines it, and they probably don't do a lot towards producing CT in Richard Paul's strong sense. They do (one hopes) teach what they were designed to teach: informal logic. Using the various techniques and methods of informal logic for the assessment of arguments and reasoning is undoubtedly a critical kind of mental activity. It seems legitimate to call it "critical thinking." There are probably many other kinds of

activities or non-activities that could fairly be labeled "critical thinking." If IL courses don't teach those kinds of CT, so be it; so long as we don't claim to be doing more than we can do.

One final note. There is a legitimate concern as to whether or not students who take logic courses do, after the course is done, think more critically, reflectively, etc. than they did before. It is probably impossible to come up with an answer to this. One can test to see whether people are able to use the techniques, but it is hard to see how one could tell if they actually do use them. To encourage students to use the techniques it seems to me very important that IL course stress the construction of arguments by students, as well as having them criticize the arguments of others. If they are forced to try to apply some of the techniques to their own reasoning, there may be more hope for improvement in the quality of their own reasoning. Such construction assignments may also help with the problem of "transfer." There is apparently evidence that students have difficulty transferring thinking skills from one field to another. It may be possible to devise assignments that will require that logical techniques be transferred to some particular discipline.

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- ¹ In the program for the 1986 Eastern Division APA meeting, there were five logic texts advertised. Three were informal, two were both formal and informal, none were strictly formal. The advertising for one of the "both" books stressed its practical applicability.
- ² The title of the Association for Informal Logic and Critical Thinking implies some close relationship. Essays in a recent (Spring-Summer 1985) APA Newsletter on Teaching Philosophy devoted to critical thinking seem to assume that courses in informal logic are courses in critical thinking. One might also note the frequent occurrence of the terms "critical thinking" and "critical reasoning" in the titles of informal logic textbooks.
- ³ New York: St. Martin's, 1981
- ⁴ ibid., 13
- ⁵ by Perry Weddle in a review of Critical Thinking and Education, in C. T., Vol. 1, No. 2; and by Harvey Siegel in "McPeck, Informal Logic, and the Nature of Critical Thinking," Philosophy of Education Society Proceedings, 41, 1985, p. 63
- ⁶ ibid., 13
- ⁷ Ibid., 9
- ⁸ John McPeck, "Critical Thinking and the 'Trivial Pursuit' Theory of Knowledge," Teaching Philosophy, 8:4, October, 1985, p. 296.
- ⁹ Weddle, loc. cit.
- ¹⁰ McPeck, Critical Thinking and Education, 86
- ¹¹ Ibid., 13
- ¹² Richard Paul, "Teaching Critical Thinking In the 'Strong' Sense: A Focus on Self-deception, World Views, and a Dialectical Mode of Analysis," APA Newsletter on Teaching Philosophy, American Philosophical Association, Spring-Summer, 1985, p. 7. Originally published in Informal Logic Newsletter 4:2, May, 1982.
- ¹³ Ibid.
- ¹⁴ Ibid.
- ¹⁵ Ibid.